

GRANDE RONDE HABITAT ENHANCEMENT, AKA JOSEPH CREEK,GRANDE RONDE RIVER ,OR

8402500

SHORT DESCRIPTION:

Protects and enhances numerous anadromous fish streams on private lands throughout the Grande Ronde Basin through riparian fencing, planting, off-site water developments, and improving instream habitat diversity.

SPONSOR/CONTRACTOR: ODFW

Oregon Department of Fish and Wildlife

VANCE MCGOWAN, PROJECT BIOLOGIST

107 20th St., La Grande, OR 97850

541/963-2138

zakewalt@oregontrail.net

SUB-CONTRACTORS:

The Grande Ronde Habitat Enhancement Project typically subcontracts out specific tasks such as Fence Construction, Instream Habitat Work, Weed Control (to county Weed Control departments), and Technical Assistance or Design for certain types of work.

GOALS

GENERAL:

Supports a healthy Columbia basin, Maintains biological diversity, Maintains genetic integrity, Increases run sizes or populations, Provides needed habitat protection

ANADROMOUS FISH:

Habitat or tributary passage

NPPC PROGRAM MEASURE:

7.6, 7.7 and 7.8

RELATION TO MEASURE:

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BIOLOGICAL OPINION ID:

N/A

OTHER PLANNING DOCUMENTS:

"Integrated System Plan for Salmon and Steelhead Production in the Columbia River Basin", Agencies and Indian Tribes of the Columbia Basin Fish & Wildlife Authority. 1990."Grande Ronde River Basin: Recommended Salmon and Steelhead Habitat Improvement Measures", Confederated Tribes of the Umatilla Indian Reservation. 1984."Grande Ronde River Basin Fish Habitat Improvement Implementation Plan", Oregon Department of Fish and Wildlife. 1988"Upper Grande Ronde River Anadromous Fish Habitat Protection, Restoration, and Monitoring Plan", USFS, Pacific Northwest Forest & Range Experiment Station, ODFW, Columbia River Inter-Tribal Fish Commission, CTUIR, Nez Perce tribe, OSU. 1992. Confederated Tribes of the Umatilla Indian Reservation - Columbia Basin Salmon Policy. 1995, pg 9-10.National Marine Fisheries Service - Salmon & Steelhead Enhancement Plan for

TARGET STOCK

Snake River Summer Steelhead

Snake River Spring/Summer Chinook

LIFE STAGE

All freshwater life stages

All freshwater life stages

MGMT CODE (see below)

N; P; W

N; L; W

AFFECTED STOCK

Non-native fishes, suckers, Northern Squawfish, Redside shiners and other species tolerant of warmer water temperature

Riparian dependent wildlife species such as waterfowl, upland birds, reptiles and amphibians, big game, etc.

Redband Trout, Bull Trout, Pacific Lamprey, and other native fishes such as Cottids

BENEFIT OR DETRIMENT

Beneficial

Beneficial

BACKGROUND

STREAM AREA AFFECTED

Stream name:

selected streams within the Upper Grande Ronde Subbasin, Catherine Creek Subbasin, Wallowa River Subbasin, and Joseph Creek Subbasin

Stream miles affected:

45 miles as of January 1997, estimate 5-10 additional miles in 1997-98; indirect affects on many miles of streams downstream of individual projects

Hydro project mitigated:

The intent of this project is to provide offsite mitigation for mainstem Columbia River Basin habitat & habitat productivity lost as a result of construction of hydroelectric facilities from Bonneville upstream to Hells Canyon dam.

LAND AREA INFORMATION

Subbasin:

GRANDE RONDE BASIN

Land ownership:

PRIVATE

Acres affected:

951 as of January 1997, estimate 100 additional acres in 1997-98; indirect affects on hundreds of acres downstream of individual projects

Habitat types:

Instream and Riparian Habitat for fish & wildlife: anadromous fish spawning, rearing, holding cover; wildlife migration, thermal, nesting, forage, etc.

HISTORY:

The Grande Ronde Habitat Enhancement Project is comprised of numerous smaller projects throughout the Grande Ronde River Basin. These projects have restored degraded instream and riparian habitats. Projects are all on private lands. Additional activities to insure maintenance and monitoring of habitat recovery are also being undertaken. Prior to FY 1994 the program was 100% funded by BPA. In 1994 ODFW supplemented BPA funds with about \$68,000 of outside funds (Governor's Watershed Health/Grande Ronde Model Watershed funds). For 1996 and beyond our Work Statements have provided for cost shares with private landowners on lower priority streams, whereby the landowners provide long term maintenance of projects. In FY 1998 we anticipate utilizing an additional \$31,000 of GWEB/GRMWP funds.

BIOLOGICAL RESULTS ACHIEVED:

The Grande Ronde Habitat Enhancement Project has benefited wild Snake River Spring/Summer Chinook and Steelhead, resident fishes and wildlife by providing increased habitat diversity, streamside shading, instream cover, and canopy. Since initiation of the project, floodplain function, channel morphology and complexity have improved over the last twelve years. Bank erosion and sedimentation have been significantly reduced. Monitoring that has been accomplished to date has documented improvements such as: increased shade (ex: 10% increase on Elk Creek between 1988 and 1994); reduced or stabilized stream temperatures (ex: 1.5 degrees C cooler at the downstream end of our project on Salmon Creek); narrowing and deepening of stream channels (pre and post project transect data on several streams); and improved bank stability (photographic documentation on each individual project).

Habitat achievements to date include: 85.1 miles of riparian fencing have been constructed; 45.3 miles of streams protected and enhanced, each project with varying quantities of instream structures and plantings; 127 livestock water gaps, 20 off-site water developments and 951 acres of fenced riparian areas are inspected, maintained and treated for noxious weeds as needed.

PROJECT REPORTS AND PAPERS:

Monthly, Quarterly and Annual progress reports have been completed.

ADAPTIVE MANAGEMENT IMPLICATIONS:

At the onset of this program we felt that enhanced instream and riparian habitat will result in improved water quality and quantity, and therefore an increase in the carrying capacity for salmonid populations within the system. Modification/removal of fish passage barriers will allow adult and juvenile salmonids better access to preferred habitat at critical times of the year and during critical life stages for the organism. A few of the things we have learned over the years that influence our approach to stream restoration are:

1. At the initiation of the project a variety riparian enhancement strategies were considered (such as intensive pasture management , total protection of riparian zones using exclosure fencing, intensive planting and/or instream structures, etc.) Based on our experience over the last twelve years it seems clear that on Eastern Oregon streams riparian exclusion, along with some limited instream work or planting will achieve the quickest recovery, with the least amount of effort, and in most cases fits best with the most commonly used cattle management strategy. Our experience has also shown that different streams have shown different rates of recovery, and many factors such as stream order, location of the stream, climate, condition of the upper watershed, and past management influence how quickly streams respond. For example, high elevation sites typically require much longer recovery periods than lower elevation areas because of extreme climate changes, and shorter growing seasons for riparian vegetation.
2. The effectiveness of instream structures alone at improving habitat is variable, and that they must installed to address specific limiting factors in order to be successful. In planning habitat improvement projects we have focused on achieving proper floodplain function first and foremost. Instream structures are installed on a case by case basis where they address specific problems. Given a particular floodplain problem, there are a number of different approaches that may be utilized. We believe that in most situations riparian fencing, planting, and using bioengineering techniques can achieve equal or better results than more traditional “hard” structure techniques.
3. We have used a wide variety of bioengineering and planting techniques since the program was initiated. For example, local and distant plant stocks, native and exotic plants, cuttings and rooted stocks have all been tried. Bioengineering and riparian planting success is largely dependent on donor plant selection and/or brood source, and our experience has shown that local indigenous stock are most likely to succeed. Success is also increased when individual plants or species of plants are placed in areas where they occur naturally, therefore site selection is critical.
4. As originally designed, riparian fences were thought to be relatively maintenance free. Our experience has shown that a successful program is dependent on a project design that includes a consideration of geomorphology and hydraulics of the stream (i.e. place the fence outside of the flood prone area), and a modest yet continuous level of maintenance. Both are vital to the overall success of the program.

PURPOSE AND METHODS

SPECIFIC MEASUREABLE OBJECTIVES:

The program objective is to increase wild anadromous salmonid production by reducing sediment loading and water temperatures, improving riparian habitat and instream habitat diversity. To achieve this objective we will continue fencing riparian areas, planting grasses, forbs, shrubs and trees, adding off-site watering developments and improving instream habitat diversity. We will also inspect, maintain, monitor and evaluate existing projects. We will continue to work cooperatively with landowners, Tribes, other state and federal agencies, and provide educational opportunities to interested parties. In FY 1997 we will work with cooperating landowners to protect as many miles of riparian habitat as possible. We will also perform routine maintenance on existing projects, provide additional maintenance following any catastrophic natural events (e.g. floods, wind storms, ice flows etc.), and monitor effectiveness of completed projects.

CRITICAL UNCERTAINTIES:

It has been identified in “Recommended Salmon and Steelhead Habitat Improvement Measures” CTUIR, 1984., that overall habitat conditions within the basin are poor, and that recovery of these areas will enhance natural production of anadromous salmonids. Therefore, we operate under the premise that “if we build it they will come!”

Out of basin variables which affect salmonid production within the Grande Ronde basin need to be adequately addressed so as to maximize the habitat enhancement efforts of the Grande Ronde Habitat Improvement Project. Mainstem passage problems, consumptive fisheries, or other variables will need to be addressed in order to assure maximum returns of adult salmonids back to the Grande Ronde Basin, and to allow their progeny to take full advantage of the enhanced habitat.

In basin variables which may affect salmonid production should also be adequately addressed so as to maximize our habitat enhancement efforts. For example, adjacent public and/or private timber or agricultural lands should be managed to improve overall watershed health, to reduce the risks of severe flooding, fires, or sedimentation that occurs as a result of these events.

BIOLOGICAL NEED:

Low summer stream flows and the associated high water temperatures adversely affect salmonids throughout much of the Grande Ronde subbasin. Degradation of riparian areas and their effective hydrologic function has contributed significantly to these flow/temperature problems. In 1984, 273 miles of degraded stream habitat on private lands within the Grande Ronde subbasin were identified as in need of habitat restoration (CTUIR, 1984. Recommended Salmon and Steelhead Habitat Improvement

Measures). After twelve years of intensive efforts by ODFW, 45 miles have been treated. We anticipate protecting an average 5 miles of stream/year in 1997 and beyond.

HYPOTHESIS TO BE TESTED:

Restoring and/or enhancing riparian habitat, instream habitat diversity, and access to that habitat will result in improved quantity and quality of salmonid spawning and rearing habitat.

ALTERNATIVE APPROACHES:

Less restrictive agreements (i.e. shorter lease terms, pasture management rather than livestock exclusion) were considered. These techniques have been used by others but are often ineffective, or take much longer to produce recovery. Since the listed or proposed stocks have reached critically low populations, the most rapid method of recovery was chosen.

JUSTIFICATION FOR PLANNING:

N/A

METHODS:

Control livestock utilization of riparian areas by: a) fencing riparian areas to exclude grazing and b) developing off-site water sources to encourage livestock to focus their attention away from riparian areas.

Revegetate riparian areas by: a) planting shrubs and trees, b) seeding grasses and legumes and c) controlling noxious weeds.

Improve streambank stability and instream habitat diversity by: a) using bioengineering techniques to stabilize streambanks and provide stream channel/grade control and b) installing large wood and/or boulders inchannel to increase habitat diversity.

Improve fish access to preferred habitat by modifying or removing fish passage barriers.

Monitor & maintain the project by taking photopoint pictures, record stream temperatures, collect riparian transect data; and inspect maintain fencing and instream structures at least twice annually.

PLANNED ACTIVITIES

SCHEDULE:

<u>Planning Phase</u>	<u>Start</u> 1/1984	<u>End</u> Ongoing	<u>Subcontractor</u>
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Task Planning tasks include identifying and negotiating with prospective landowners, preparing leases or cooperative agreements, field inventories or surveys, mapping, design and layout of fencing and instream projects, contract preparation, and obtaining necessary permits.

<u>Implementation Phase</u>	<u>Start</u> 1/1997	<u>End</u> Ongoing	<u>Subcontractor</u> various private contractors
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Task In FY 1997 and beyond we will implement new projects as opportunities arise. Implementation will consist of:

- 1) signing lease agreements;
- 2) control livestock utilization of riparian areas by enclosure fencing and developing off-site water developments to attract them away from the streams;
- 3) Revegetate riparian areas by planting trees and shrubs, seeding grasses, and controlling noxious weeds;
- 4) Improve streambank stability and instream habitat diversity using bioengineering techniques, installing large woody debris, boulders, or other habitat structures that would naturally occur in these streams.

PROJECT COMPLETION DATE:

1/2012 (if no new leases are signed)

CONSTRAINTS OR FACTORS THAT MAY CAUSE SCHEDULE OR BUDGET CHANGES:

1) Catastrophic natural events (i.e. floods, wind storms, etc.). 2) Change of landownership and the level of commitment to the project by the new landowner. 3) Compliance with state and federal agencies (e.g. Corp of Engineers, Oregon Department of Environmental Quality, Oregon Division of State Lands, Water Resources, etc. 4) Timeliness of procuring funds.

OUTCOMES, MONITORING AND EVALUATION

SUMMARY OF EXPECTED OUTCOMES

Expected performance of target population or quality change in land area affected:

Improvement of the quantity and quality of spawning and rearing habitat for spring chinook and summer steelhead will result from implementation of planned habitat activities, and increases in natural production should occur. In addition to increased anadromous fisheries production, riparian and instream habitat quality and quantity should improve and provide benefits to resident fishes & wildlife, as well as to participating landowners.

Present utilization and conservation potential of target population or area:

In the upper Grande Ronde Basin wild spring chinook populations are critically low and in the last several years have fluctuated at less than 100 adults. Summer steelhead populations in recent years are estimated to be 40% or less of historic returns. Consumptive sport or tribal fisheries have ceased for spring chinook, and severely reduced for steelhead.

Assumed historic status of utilization and conservation potential:

In 1957 the spring chinook run size in the Grande Ronde Basin was estimated at 12,200 fish. The Grande Ronde Subbasin Plan recommends a run size of 16,400 adult chinook salmon and 27,500 adult steelhead (NWPPC,1990).

Long term expected utilization and conservation potential for target population or habitat:

The long term desired potential is to achieve run sizes that resemble historic runs, as listed in the "Integrated System Plan for Salmon and Steelhead Production in the Columbia River Basin", (Agencies & Indian Tribes of the Columbia Basin Fish & Wildlife Authority, 1990), and to reestablish a stable and productive fishery.

Contribution toward long-term goal:

The project will access, create, improve, protect and restore riparian and instream habitat for anadromous salmonids, thereby maximizing opportunities for natural fish production within the Grande Ronde Basin.

Indirect biological or environmental changes:

1) Increase in riparian vegetation, 2) Increase streamside shading, 3) Reduced high summer water temperatures, 4) Increased low summer flows, 5) Increased instream habitat diversity, 6) Reduced sedimentation/increased stream bank stability, 7) Reduced winter icing, 8) Improve habitat for all riparian dependent species.

Physical products:

85.1 miles of riparian fencing have been constructed protecting 45.3 miles of streams and 951 acres of riparian habitat. 127 livestock water gaps, 20 off-site spring developments, approximately 2,100 instream habitat structures of varying types have been installed. Approximately 48,000 riparian trees and shrubs have been planted, and noxious weed control measures performed in all project areas.

In 1997 and beyond we expect to protect an estimated 5 miles of stream and 40 acres of riparian habitat/year.

Environmental attributes affected by the project:

As riparian and instream habitats recovery we expect: 1) Increase in riparian vegetation, 2) Increase streamside shading, 3) Reduced high summer water temperatures, 4) Increased low summer flows, 5) Increased instream habitat diversity, 6) Reduced sedimentation/increased stream bank stability, 7) Reduced winter icing, 8) Improve habitat for all riparian dependent species. Each project restricts human use according to the terms described in our 15 year lease agreements (i.e. eliminates grazing, instream activities, road construction, timber harvest, burning, etc.)

Changes assumed or expected for affected environmental attributes:

We are allowing the native plant communities inside the fenced areas to evolve through natural stages of plant succession. Eventually, this will lead to a climax plant community characterized by an overstory of deciduous hardwood tree species and/or conifers, accompanied with a functional mid and understory plant/shrub community. Near term changes (1-5 years) in the affected streams include increase in grasses, forbs and shrubs, narrowing and deepening of the stream channel, and improved overall habitat diversity. Long term changes (> 5 years) include increased shading from development of overstory, reduced summer temperatures, increased summer flows, reduced sedimentation and reduced winter icing as stream banks become more

stable. Increases in large woody debris input and associated pool habitat would occur naturally as late succession/climax plant communities develop.

Measure of attribute changes:

N/A. Sedimentation or habitat units are not being quantified.

Assessment of effects on project outcomes of critical uncertainty:

We will continue to monitor the program as described in "Monitoring Approach" below, and look for opportunities to improve monitoring techniques. The results will be included in quarterly and annual reports. Assessing the effects of critical uncertainties (such as mainstem passage problems) is not currently being done by this project. However, we expect that project outcomes will be beneficial to all other riparian dependent species, regardless of the outcome of the targeted species.

Information products:

Quarterly and Annual Reports

Coordination outcomes:

Reports and data summaries (such as stream temperatures, fish or habitat surveys, before/after photopoint pictures) are distributed to large a number of individuals and agencies including DEQ, DSL, landowners, tribes, the Grande Ronde Model Watershed Program, local watershed councils, etc.

MONITORING APPROACH

Results should be measured as quantity and quality of improvement in riparian and instream habitat for anadromous salmonids. There are a variety of methods that may be chosen to accomplish this (fish surveys, stream temperatures, % bank stability, reduced sedimentation, etc.) The methods chosen should be based on the availability of resources.

Provisions to monitor population status or habitat quality:

The Grande Ronde Habitat Improvement Project has been monitoring the following:

Thermographs: Eight permanent thermographs have been installed on selected project sites. These thermographs record temperatures on an hourly basis, 24 hours/day, all year long. Other thermographs have been deployed in selected reaches to record summer temperatures. These data are summarized annually and included in the annual progress report submitted to BPA.

Habitat Monitoring Transects: One hundred forty habitat monitoring transects have been established within the project area.

These transects are designed to measure long term changes in the riparian vegetation and stream channel morphology.

Following the establishment of these transects and the initial data collection, measurements are retaken at 3 to 5 year intervals.

Data collected from each transect includes numerable physical measurements of riparian and stream channel characteristics (e.g. channel substrate, channel width, bank height, flow features, ground cover type, stream shading, etc.)

Photopoints: One hundred ninety-seven photopoints have been established on project sites. The purpose of these photopoints is to photographically document changes in riparian vegetation and stream channel morphology. Several photopoints are established on each project site prior to project implementation. Pictures are then retaken from most of these sites on an annual basis. Photographs are catalogued, used for presentations, as educational tools, provided to the respective landowners and included in annual reports to BPA.

Respective ODFW fish districts or research groups monitor adult salmonid redd counts, physical stream habitat surveys, and salmonid life histories within the Grande Ronde Basin.

Data analysis and evaluation:

Data are analyzed and evaluated regularly by ODFW fish habitat personnel by comparing pre-treatment and post-treatment of individual projects to recognized benchmarks. Data are included in quarterly or annual reports.

Information feed back to management decisions:

Data are included in quarterly or annual reports. Informational meetings and technology transfer sessions are attended regularly.

Critical uncertainties affecting project's outcomes:

Some critical uncertainties previously listed are being addressed by other groups or agencies. Others might be handled by establis

hment of a research and development program/section devoted solely to the study of fish habitat improvement projects/programs.

EVALUATION

Quarterly & Annual reports currently identify progress made in a variety of areas (e.g. miles of stream protected, reduced stream temperatures, salmon/steelhead redd counts, etc.) However, establishing a program that answers specific questions that measure the projects overall performance might be required to fully evaluate the project . For example, the region could develop a standard assessment that identifies benchmarks by which this project and others could be compared to on a short and long term basis. In this assessment the project could be evaluated by a panel of experts every few years on the merit of whether or not the region's overall goals for fish restoration issues are being met.

Incorporating new information regarding uncertainties:

If new information indicates specific tasks or objectives that are obtainable within the scope of this project then they should be implemented as soon as possible. These should be included in future Statements of Work and Budgets. Since our projects are multi-year cooperative agreements we can implement or incorporate new technologies and/or management schemes into existing or future projects.

Increasing public awareness of F&W activities:

Signing is placed in visible locations at all projects, identifying them as a cooperative efforts between agencies and private landowners. Project personnel work regularly with other agencies, organizations (boy scouts, bird clubs, etc.) and school groups. News articles are occasionally written in local newspapers. Photopoints from monitoring activities are displayed to the public regularly, such as at county fair exhibits and to a number of groups (i.e. Grande Ronde Model Watershed Program, school groups, bird clubs, etc.).

RELATIONSHIPS

RELATED BPA PROJECT

9604600 CTUIR Riparian & Fish Habitat Analysis, Protection & Enhancement

9607700 Meadow Creek Restoration

5519100 Meadow Creek Instream Structure and Riparian Eval.

9202604 Spring Chinook Salmon Early Life History

9402700 Grande Ronde Model Watershed Habitat Projects

8710002 Umatilla Fish Habitat Improvement

8402100 Mainstem, Middle Fork, and N. Fork John Day River Fish Habitat enhancement

RELATED NON-BPA PROJECT

Bureau of Land Management/Baker District

Environmental Protection Agency/Oregon Department of Environmental Quality, various funding sources

US Army Corps of Engineers, Modification of Corps Projects for the benefit of the Environment, Section 1135 authority

RELATIONSHIP

US Forest Service/Meadow Creek Restoration

US Forest Service/Meadow Creek Instream Structure & Riparian evaluation

The Spring Chinook Salmon Early Life History program helps identify critical habitat locations and requirements

The ODFW and the Grande Ronde Model Watershed Program work cooperatively to coordinate project identification, prioritization and implementation within the Grande Ronde Basin

Focus on watershed, riparian and instream habitat enhancement as a means of improving the quantity & quality of water and salmonid spawning and/or rearing habitats

Focus on watershed, riparian and instream habitat enhancement as a means of improving the quantity & quality of water and salmonid spawning and/or rearing habitats

RELATIONSHIP

Improve fish habitat on BLM lands within the Grande Ronde Basin

Fund projects in the Grande Ronde Basin that address state or federal water quality standards

Modifies Corps projects in the Grande Ronde Basin to restore or improve riparian & floodplain functions

Columbia River Fisheries Development Program (Mitchell Act)

Protection of up & downstream migrants

ODFW Fish Restoration & Enhancement/Riparian Fence Cooperative agreements

Funds riparian enhancement cooperative projects, primarily for resident, non-anadromous fishes

OPPORTUNITIES FOR COOPERATION:

The success of this project depends upon forming cooperative agreements between private landowners and other agencies. There is ongoing cooperation and technology transfer between ODFW, landowners, local Soil & Water Conservation Districts, the Grande Ronde Model Watershed Program, Tribes, DEQ, Division of State Lands, and other state and federal agencies. The Grande Ronde, John Day and Umatilla projects regularly share equipment and techniques, and at times personnel. Our Statement of Work specifically identifies Interagency Coordination and Education as part of our work plan, which includes working with other agencies, school groups, conservation groups, etc.

COSTS AND FTE

1997 Planned: \$225,000

FUTURE FUNDING NEEDS:

PAST OBLIGATIONS (incl. 1997 if done):

<u>FY</u>	<u>\$ NEED</u>	<u>% PLAN</u>	<u>% IMPLEMENT</u>	<u>% O AND M</u>
1998	\$295,000	10%	30%	60%
1999	\$295,000	10%	30%	60%
2000	\$295,000	10%	30%	60%
2001	\$310,000	10%	30%	60%
2002	\$325,000	10%	30%	60%

<u>FY</u>	<u>OBLIGATED</u>
1984	\$112,067
1985	\$218,337
1986	\$407,001
1987	\$334,014
1988	\$432,116
1989	\$327,198
1990	\$251,222
1991	\$305,716
1992	\$474,143
1993	\$204,648
1994	\$177,121
1995	\$160,491
1996	\$159,762
1997	\$249,655

TOTAL: \$3,813,491

Note: Data are past obligations, or amounts committed by year, not amounts billed. Does not include data for related projects.

<u>FY</u>	<u>OTHER FUNDING SOURCE</u>	<u>AMOUNT</u>	<u>IN-KIND VALUE</u>
1998	Governor's Watershed Heath, ODFW Restoration & Enhancement	nts at this time	no firm commitments at this time
1999	Governor's Watershed Heath, ODFW Restoration & Enhancement	nts at this time	no firm commitments at this time
2000	Governor's Watershed Heath, ODFW Restoration & Enhancement	nts at this time	no firm commitments at this time
2001	Governor's Watershed Heath, ODFW Restoration & Enhancement	nts at this time	no firm commitments at this time
2002	Governor's Watershed Heath, ODFW Restoration & Enhancement	nts at this time	no firm commitments at this time

OTHER NON-FINANCIAL SUPPORTERS:

School groups, conservation groups, and other volunteers, Salmon Corps, Prison crews, US Forest Service Wallowa-Whitman National Forest, USDA Natural Resource Conservation Service, Union & Wallowa County Soil and Water Conservation Districts, Confederated Tribes of the Umatilla Indian Reservation. Oregon Dept. of Forestry. Oregon Water Resources Dept.. Division of

State Lands, US Army Corps of Engineers, US Fish & Wildlife Service, Northwest Steelheaders Association, Oregon Dept. of Environmental Quality, County Weed Control departments, etc.

LONGER TERM COSTS: \$350,000/year

Mostly operations and maintenance, some limited implementation.

1997 OVERHEAD PERCENT: 20.5%

HOW DOES PERCENTAGE APPLY TO DIRECT COSTS:

Applies to Personnel Services and Services & Supplies; does not apply to contractual services or capitol items.

CONTRACTOR FTE: Two permanent employees, 2-5 seasonal employees (12-20 months total).

SUBCONTRACTOR FTE: Varies on an annual basis.

SUPPLEMENTAL RESIDENT FISH EVALUATION FACTORS:

Resident fishes (redband, bull trout) should benefit from expected outcomes (due to increased habitat diversity, lower stream temperatures, etc.). Sport fishing for bull trout was recently closed in Oregon.

SUPPLEMENTAL WILDLIFE EVALUATION FACTORS:

This project protects and enhances riparian and wetland areas. Approximately 75% of all wildlife species utilize these important habitats for at least some portion of their life cycle. In this project important riparian plant communities such as cottonwood and aspen groves are protected from harvest or other human related damage. Research is showing that these plant communities are critical for many wildlife species (bald eagles, neotropical birds, beaver, etc.) for food, shelter, migration corridors, nesting, etc.